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ABSTRACT

Contemporary research conceptualizes messages to include dimensions of intensity, equivocation, opinionatedness, and figurativeness. This paper seeks to evaluate and clarify such concepts by identifying the message dimensions actually perceived by receivers. Factor analysis (with varimax and oblique rotations) of message ratings from 211 college students revealed a total of five factors: In offensiveness, Certainty, Interest, Novelty, and Figurativeness. Results were interpreted as providing tentative and partial support for current conceptualizations of equivocation and figurativeness as message dimensions. (Author/AA)

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SOME PERCEIVED DIMENSIONS OF BRIEF MESSAGES*

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Abstract
of
SOME PERCEIVED DIMENSIONS OF BRIEF MESSAGES

Contemporary research conceptualizes several dimensions of messages including intensity, equivocation, opinionation and figurativeness. This paper seeks to evaluate and clarify such concepts by identifying the message dimensions actually perceived by receivers. Factor analysis (with varimax and oblique rotations) of message ratings revealed a total of five factors: Inoffensiveness, Certainty, Interest, Novelty and Figurativeness. Results were interpreted as providing tentative and partial support for current conceptualizations of equivocation and figurativeness as message dimensions. Additional investigation of message Interest was called for.

Einige wahrgenommene Dimensionen kurzer Mitteilungen

Die Forschung heute erfasst die Dimensionen der Mitteilungen unter solchen Begriffen wie Intensität, Mehrdeutigkeit, Haltung und Bildlichkeit. Dieser Beitrag untersucht solche Begriffe und versucht sie zu klären, indem die vom Hörer tatsächlich wahrgenommenen Dimensionen isoliert werden. Faktorenanalyse der Bestimmungen von Mitteilungen mit Varimax- und Schrägrotationen ergab insgesamt fünf Faktoren: Unanstössigkeit, Gewissheit, Interesse, Neuartigkeit und Bildlichkeit. Die Ergebnisse wurden dahingehend interpretiert, dass die angenommenen Vorstellungen von Mehrdeutigkeit und Bildlichkeit als Dimensionen von Mitteilungen vorläufig und zum Teil bestätigt wurden. Weitere Untersuchungen des Interessensfaktors dürften von Nutzen sein.

(translation of abstract by Morris Vos)

SOME PERCEIVED DIMENSIONS OF BRIEF MESSAGES

In 1969 the New Orleans Conference on Research and Instructional Development encouraged "methodological research designed to produce more precise definitions of independent and dependent variables, particularly variables influencing the characters of messages and their effects (Kibler & Barker, 1969)." This paper reports a preliminary attempt to identify perceived dimensions of messages and to develop semantic differential type scales for measurement of such dimensions. The study focused on several dimensions previously conceptualized in the literature.

Statement of Problem

Contemporary students of communication have identified and initiated investigation of several message variables including language intensity (Bowers, 1963; Burgoon & Chase, 1973; Burgoon, Jones & Stewart, 1975; Burgoon & King, 1974; Burgoon & Miller, 1971), equivocation (Goss & Williams, 1973; Williams & Goss, 1975), opinionated language (Basehart, 1971; Infante, 1973, 1975; Mehrley & McCroskey, 1970; Miller & Basehart, 1969; Miller & Lobe, 1967) and figurative language (Bowers & Osborn, 1966; Frentz, 1974; Jordan, Flanagan & Wineinger, 1975; Jordan & McLaughlin, 1976; Reinsch, 1971, 1974).

Several questions may be raised about this entire body of research. First, do receivers actually perceive messages as possessing these dimensions? (And if not, what dimensions of messages are perceived?) Second, are the conceptualized dimensions independent (orthogonal) or interrelated (oblique)? Third, how might the various characteristics of messages be measured? Each of these questions is discussed briefly below.

The identification of message variables for investigation has typically been conceptual rather than empirical. (There have been, of course, attempts to empirically validate what was conceptually derived.) Consequently there have been few attempts to discover whether or not such dimensions as intensity, equivocation, opinionation and figurativeness are "natural" dimensions, i.e. dimensions which receivers normally use to categorize messages. (Jordan & McLaughlin, 1976, recently reported data suggesting that figurativeness may not be such an organizing concept.) The conceptually identified dimensions may or may not correspond to empirically derived ones and important natural dimensions may have been overlooked.

At least two attempts to identify dimensions of messages do deserve attention. Carroll(1960) calculated 39 objective measures and collected 29 subjective

ratings from each of eight "expert" judges concerning 150 prose passages. He reported six dimensions: general stylistic evaluation, personal affect, ornamentation, abstractness, seriousness and characterization. The characterization dimension, however, appears weak since no subjective rating loaded in excess of .17 and only one objective variable (percent of transitive verbs) loaded as high as .63. In addition, the small and perhaps atypical sample of judges (all eight had an interest and training in English literature) make it difficult to generalize from the results.

Burgoon (1972) had a total of 321 judges evaluate either one or three messages advocating civil rights for Blacks on each of 12 scales. His results revealed three factors: interest, militancy and evaluation. The generalizability of these results may be somewhat limited due to the small number and relatively homogeneous nature of the messages (all three advocated social change).

A second question which can be raised concerns the relationship between dimensions of messages. Present conceptualizations suggest that certain dimensions may be related. For example Bowers (1964) found that in the language sample tested figurativeness was positively correlated with intensity. Opinionated language is defined by Rokeach (1930) as language indicating both an attitude toward an object and an attitude toward other

persons who have attitudes toward the object; it would seem then that opinionated language and intense language may be related. In some cases dimensions seem to have been unintentionally confounded. For example, McEwen and Greenberg (1970) may have tested messages which differed in both intensity and equivocation; they report (p. 344) operationalizing low intensity with verb forms implying only a hypothetical or possible connection between source and concept (e.g. "seems to be" vs. "is"; "may cause" vs. "causes"). Such manipulations would seem to lessen the definiteness with which a position is taken in addition to, or rather than, reducing the extremity (intensity) of the position revealed. This may explain why the high intensity message was perceived as clearer (less equivocal?) than the low intensity message (McEwen & Greenberg, 1970, pp. 346-347).

The final question to be raised concerns the measurement of message variables. Jordan and McLaughlin (1976) have argued that contemporary investigation of figurative language is inadequately cognizant of figurativeness as a matter of degree along a literal-figurative continuum. While there have been several attempts to operationalize degrees of figurativeness (McCroskey & Combs, 1969, literal vs. literal analogy vs. figurative analogy; Reinsch, 1971, 1974, literal vs. simile vs. metaphor; Jordan, et. al., 1975, inanimate metaphor vs. animate

metaphor) the criticism is basically valid and could legitimately be extended to research concerned with other language variables as well. But attention to degrees of message characteristics seems dependant upon development of more sensitive measurement techniques. Semantic differential type scales and factor analysis appear to provide tools for a considerable advance in the measurement of message variables.

Procedure

It was decided to use brief (i.e. one sentence) messages. This facilitated inclusion of more messages than would have been practical with longer messages. Twenty sentences were constructed as reported in Table 1. Sentences were generated by the author in an attempt to include examples of various degrees of intensity (1,7,9,12,15), equivocation (6,13,16), opinionation (8, 10,18) and figurativeness (3,17,19,20).

insert Table 1

Forty-seven bi-polar adjective pairs were selected from previous research or generated by the author. The adjective pairs are included in Table 2. An attempt was made to include pairs expected to tap each of the

TABLE 1

Text of Sentences

-
-
1. Maple leaves grow on maple trees.
 2. Henry Kissinger is a very good Secretary of State.
 3. McDonough District Hospital is an angel of mercy.
 4. President Ford's pardon of Richard Nixon is another example of how the American people get screwed by their government.
 5. The floor in this room is brown.
 6. All you white honkeys are racists.
 7. Western Illinois University is a good university.
 8. All right thinking Americans realize that Richard Nixon was the most beneficent President in the history of the United States.
 9. Maple leaves are really pretty.
 10. Everyone knows that true democracy is only a myth.
 11. The walls of this room are the color of vomit.
 12. Western Illinois University is the finest university in the state of Illinois.
 13. Black people are usually smarter than white people.
 14. Henry Kissinger is God.
 15. Maple leaves are breathtakingly beautiful.
 16. McDonough District Hospital is probably the largest hospital in western Illinois.
 17. Western Illinois University is a big pile of manure.
 18. Only an idiot could fail to recognize that Richard Nixon was the most corrupt President in the history of the United States.
 19. The church is a museum full of wax saints.
 20. A policeman is a blueberry of happiness.
-

factors noted in previous research.

insert Table 2

Mimeographed booklets were prepared in which the twenty sentences were presented in a systematically varied sequence. Subjects were asked to evaluate each message on 47 seven-space scales constructed from the bi-polar adjective pairs. Thus each subject was asked to make 940 responses. (Actually 50 scales were prepared and used, requiring 1000 responses from each subject, but limitations of available equipment for data analysis necessitated the elimination of three scales.)

Subjects were solicited from students enrolled in the basic public speaking course. Useable responses were collected from 211 students. All statistical tests were from Nie, Hull, Jenkins, Steinbrenner and Bent (1975).

Results and Discussion

Pearson correlations between variables were derived for the 4220 (211 subjects x 20 messages) sets of responses yielding a 47 by 47 matrix. Missing data was deleted pairwise; n ranged from 4218 to 4176. All subsequent factor analysis was based on this matrix.

For factor analysis the method of principal factoring with iteration was used; varimax rotation was selected.

TABLE 2

Bi-polar Adjective Pairs

1. soothing--aggravating	36. useless--useful
2. unfamiliar--familiar	37. sure--not sure
3. interesting--boring	38. cool--hot
4. vivid--pale	39. figurative--
5. plain--fancy	not figurative
6. complex--simple	40. concrete--abstract
7. passive--active	41. courteous--rude
8. undecided--decided	42. cautious--rash
9. cooperative--	43. unexciting--exciting
competitive	44. confident--not confident
10. right--wrong	45. sharp--dull
11. uncommitted--committed	46. good--bad
12. neutral--extreme	47. subjective--objective
13. beautiful--ugly	
14. insecure--secure	
15. colorful--dull	
16. clear--not clear	
17. certain--not certain	
18. strong--weak	
19. acceptable--unacceptable	
20. not original--original	
21. congenial--quarrelsome	
22. calm--agitated	
23. non-militant--militant	
24. not intense--intense	
25. understood--not understood	
26. fair--biased	
27. sociable--unsociable	
28. fresh--stale	
29. intelligible--unintelligible	
30. new--old	
31. unusual--usual	
32. precise--vague	
33. metaphorical--literal	
34. imaginary--real	
35. peaceful--vigorous	

This technique yields an orthogonal solution with the variance of the squared loadings in each column of the factor matrix maximized.

Initially the eigenvalue was set at 1.5 retaining six factors. This decision was made using Guttman's weakest lower bound as a general guide and the test of discontinuity (Rummel, 1970). A factor was retained, however, only if at least two scales loaded on it. A scale was defined as loading on a factor if it had a primary loading in excess of .60 with no secondary loading as high as .40.

Results, as reported in Table 3, revealed a three-factor solution accounting for 41.7 percent of the total variance. The first factor, tentatively called Inoffensiveness, appeared to be a general evaluative factor including judgements of agreement (acceptable--unacceptable, fair--biased), extremity (non-militant--militant, cautious--rash), and congeniality (congenial--quarrelsome, courteous--rude, sociable--unsociable).

insert Table 3

Factor scores were derived for each subject on each sentence by summing across the appropriate scales and dividing by the number of scales. Mean ratings for each

TABLE 3
Rotated Factor Structure: Orthogonal Solution

Scales*	Factors		
	1	2	3
1	.685	.210	.113
13	.644	.143	.225
19	.611	.387	.078
21	.753	.166	.043
22	.728	.151	.088
23	.655	.008	.124
24	.619	.087	.296
26	.606	.155	.095
27	.677	.184	.036
35	.633	.043	.120
41	.707	.095	.037
42	.661	.016	.092
16	.029	.672	.047
17	.077	.688	.017
37	.013	.635	.060
3	.073	.067	.675
4	.185	.207	.608
15	.021	.194	.647
28	.205	.077	.612
Eigenvalues	9.818	5.927	3.831
Percent of Total Variance	20.9	12.6	8.2

*All non-loading or factorially complex scales have been deleted

sentence are reported in Table 4 and indicate that Sentence 1 and Sentence 9 were rated as least offensive while Sentence 6 was rated as most offensive.

insert Table 4

The second factor, tentatively called Certainty, seems to be an index of the perceived certainty of the source (clear--not clear, certain--not certain, sure--not sure). An examination of sentence ratings (See Table 4) suggests, however, that all of the sentences tested are relatively high on this dimension. The highest ratings are for sentences (1,2,4,5,9,15) which seem to be definite statements of opinion or objective fact. Lower ratings (but none are below the midpoint, 3.0) were given to sentences containing qualifiers such as "usually" or "probably" (13,16), sentences containing somewhat ambiguous tropes (3,20), and sentences which perhaps seem overstated from lack of confidence (8,10).

The third factor, tentatively called Interest, seems to measure the perceived interest value of the statement (interesting--boring, vivid--pale, colorful--dull, fresh--stale). The lowest ratings were given to simple statements of objective fact (1,5) while higher ratings were

TABLE 4
Ratings of Sentences on Three Orthogonal Factors

Sentences	Inoffen- siveness	Mean Ratings*	
		Certainty	Interest
	1.703	1.147	3.853
2	2.688	1.951	3.043
3	2.937	2.518	2.966
4	4.087	1.872	2.215
5	2.859	1.963	4.311
6	5.082	2.037	2.606
7	2.412	2.075	3.260
8	4.256	2.544	2.947
9	1.826	1.836	2.890
10	3.896	2.592	2.714
11	4.075	2.143	2.762
12	3.262	2.035	2.777
13	4.449	2.681	2.793
14	4.388	2.359	2.595
15	2.109	1.859	2.058
16	3.103	2.723	3.207
17	4.422	1.179	2.472
18	4.074	0.035	2.656
19	4.240	0.417	2.629
20	3.025	0.081	2.231

*All ratings are on a scale of zero to six with the "positive" end set at zero. Missing data was deleted pairwise; n ranged from 200 to 211 with a maximum possible of 211.

given sentences which perhaps seemed fresh and interesting in their subject matter or style (4,15,20).

This pattern of results suggests that the receivers categorized these messages on three independent dimensions. These dimensions bear little resemblance to Carroll's (1960) results but do correspond partially to Burgoon's (1972) findings. Burgoon (p. 292) reported three factors: Interest, Militancy and Evaluation. Burgoon's Interest factor appears to correspond directly to the Interest factor observed in these results. Burgoon's Militancy and Evaluation factors seem both to be included in the Inoffensiveness factor of these results; one of Burgoon's Militancy scales (non-militant--militant) and one of his Evaluation scales (acceptable--unacceptable) loaded on Inoffensiveness. Burgoon did not observe a factor similar to the Certainty factor noted in these results. Since factor analysis is limited by the sample of rating scales and rating objects used, Burgoon's failure to observe a Certainty factor and the failure of this study to differentiate between Evaluation and Militancy may be procedural artifacts.

A consideration of presently conceived message variables in light of these results suggests several tentative conclusions. First, dimensions of intensity and opinionation did not emerge. Scales expected to register

intensity and opinionation loaded, along with some other scales, on the Inoffensiveness factor. This may be a procedural artifact or it may indicate that these two dimensions are not perceptually distinguished from each other and from other judgements.

Second, the figurativeness dimension did not emerge. This is consistent with the findings of Jordan and McLaughlin (1976) and may indicate that figurativeness is not a basic perceptual category.

Third, the Certainty factor, while it should be interpreted with caution due to the apparent homogeneity of the language sample on this dimension, appears related to equivocation. This suggests that equivocation may be a basic and independent dimension of message perception.

Finally, the identification of an Interest factor (as noted also by Burgoon, 1972) suggests that the interest value of messages may be a basic dimension of message perception. While this variable has not previously been the object of much research, such research may be desirable.

It was noted previously that several of the dimensions presently under investigation by students of communication may be interrelated. Consequently, an additional factor analysis of the data using an oblique rotation was deemed desirable. An oblique rotation relaxes the requirement that factors be independent and permits the emergence of significant, but correlated, dimensions.

The method of principal factoring with iteration was selected with an oblique rotation ($\delta = 0$).

Initially the required eigenvalue was set at 1.5, retaining six factors. A factor was retained, however, only if at least two scales loaded on the factor in excess of .60. Results, as reported in Table 5, revealed a five-factor solution. Factor scores for each subject on each sentence were again derived and mean ratings are reported in Table 6.

insert Table 5

insert Table 6

The first three factors resemble the factors noted with the previous orthogonal rotation. Factor 1 differs from the previous Factor 1 in the addition of two scales (9,38) and the loss of one (26). Factor 2 differs from the previous Factor 3 in the absence of two scales (4,28) leaving it (as distinguished from Factor 4) more purely an index of the interest value of the subject matter as opposed to the novelty of the language. And Factor 3 is essentially identical to the previous Factor 2. Two new factors also emerged, one tentatively called Novelty seemingly concerned with the novelty of language choices,

TABLE 5
 Rotated Factor Structure Matrix: Oblique Solution*

Scales**	Factors				
	1	2	3	4	5
1	.683	.281	.200	.167	.313
9	.608	.077	.039	.209	.305
13	.636	.332	.153	.044	.208
19	.609	.335	.320	.261	.421
21	.762	.089	.154	.188	.389
22	.751	.015	.158	.187	.352
23	.679	.090	.034	.128	.263
24	.645	.275	.080	.202	.286
27	.675	.169	.167	.133	.370
35	.664	.104	.005	.144	.165
38	.604	.167	.129	.112	.144
41	.707	.118	.102	.075	.332
42	.651	.002	.041	.154	.341
3	.118	.622	.125	.426	.206
15	.003	.634	.267	.329	.204
16	.059	.098	.689	.170	.225
17	.038	.104	.729	.126	.189
37	.059	.204	.633	.084	.240
30	.040	.353	.039	.688	.152
31	.240	.108	.179	.706	.346
33	.185	.073	.192	.222	.670
34	.359	.141	.287	.319	.694
Factor Pattern Correlations					
	2	3	4	5	
1	-.053	-.075	.197	.389	
2		.285	.276	.026	
3			-.077	-.205	
4				.356	

*Delta equal to zero.

**All non-loading scales have been deleted.

TABLE 6

Ratings of Sentences on F Obliquity Factor

Sentences	Mean Ratings*				
	Inoffen- siveness	Interest	Cer- tainty	Novelty	Figura- tiveness
1	1.752	4.014	1.147	4.583	4.824
2	2.638	3.114	1.951	3.467	3.748
3	2.782	2.998	2.518	2.877	2.157
4	4.078	2.165	1.872	3.481	3.095
5	2.822	4.517	1.963	3.486	3.724
6	4.980	2.569	2.037	3.939	2.538
7	2.345	3.188	2.075	3.716	3.602
8	4.141	2.909	2.544	2.761	2.675
9	1.763	2.978	1.836	3.790	3.531
10	3.833	2.607	2.592	3.324	2.898
11	3.984	2.900	2.143	2.285	2.448
12	3.165	2.754	2.035	2.883	2.902
13	4.362	2.746	2.681	2.555	2.665
14	4.255	2.687	2.359	2.109	1.742
15	2.072	2.064	1.859	3.135	2.910
16	3.044	3.183	2.723	2.867	3.410
17	4.328	2.452	2.179	3.007	1.877
18	4.012	2.529	2.035	3.595	3.338
19	4.138	2.633	2.417	2.794	2.000
20	2.906	2.187	2.981	1.943	1.671

*All ratings are on a scale of zero to six with the "positive" end set at zero. Missing data were deleted pairwise; n ranged from 200 to 211 with a maximum possible of 211.

c. tentatively call figurativeness, seemingly concerned with the figurativeness of language choices. Sentence 17, for example, was rated as rather figurative (1.877) but not especially Novel (3.007).

It should be remembered that with this rotational method the factors are not orthogonal. As shown in the lower portion of Table 5, Factor 5 (Figurativeness) is highly correlated with both Factor 1 (Inoffensiveness) and Factor 4 (Novelty). Factor 2 (Interest) is also positively related to both Factor 3 (Certainty) and Factor 4 (Novelty).

These results suggest the following conclusions. First, once again Interest emerged as an important dimension of message perception. There may be, however, at least two related facets of the Interest dimension, interest value of the topic (Factor 2) and language novelty (Factor 4). Additional study with messages less homogeneous on these dimensions than the present sample appears desirable.

Second, Figurativeness did emerge as a factor, but was correlated with other factors. This suggests that Figurativeness may be an important, but not independent, dimension of message perception. There is no a priori reason to assume that the basic dimensions of human perception are, or should be, orthogonal. It is possible that imposing the assumption of orthogonality on the data obscures important information. (Since Jordan &

McLaughlin, 1976, used an orthogonal rotation this may explain the absence of a figurativeness dimension in their results.) At the very least, additional investigation seems desirable.

This study was intended to answer three questions: (a) do receivers perceive messages as possessing intensity, equivocation, opinionation, figurativeness, or other dimensions?, (b) are the perceived dimensions independent or interrelated?, and (c) how might such dimensions of messages be effectively measured?

The results of this investigation indicate that receivers categorize messages on at least three orthogonal dimensions (Inoffensiveness, Certainty, Interest) and two dimensions which are not independent (Novelty, Figurativeness). These factor structures provide tentative support for equivocation and partial support for figurativeness as presently conceived. The results also suggest that Interest may be an important (though largely neglected) message dimension. Intensity and opinionation did not emerge as distinct factors.

The measurement of these variables remains without an adequate solution. But the results of this study do seem to indicate that semantic differential type scales may be a useful technique. Scales identified in this study as loading on various factors of message perception would seem to serve as a useful starting point for future investigation.

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